14September2017
OPNAV, N464E (b) (6)
LCDR (b) (6)

Subject: Sea Level Rise

1. **Executive Issues:**
   - The potential effects of Sea Level Rise (SLR), whether in the near term or in the future, represent additional risks to the Navy's operating environment, missions, and facilities.
   - The Navy is incorporating these risks into various planning and risk management processes in order to mitigate their effects.

2. **Background:**
   - The SECDEF has stated in testimony: "…the Department should be prepared to mitigate any consequences of a changing climate, including ensuring that our shipyards and installations will continue to function as required."
   - DoD developed a Climate Change Adaptation Roadmap in 2014, and was followed in January 2016 by DoDD 4715.21, Climate Change Adaptation and Resilience, which states DoD must be able to adapt current and future operations to address the impacts of climate change in order to maintain an effective and efficient U.S. military.
   - Task Force Climate Change (TFCC), led by the Oceanographer of the Navy (N2/N6E), is the senior-level OPNAV group that oversees the effects of SLR.

3. **Discussion:**
   - The Navy is incorporating various SLR studies and the Strategic Environmental Research and Development Program (SERDP) Regional Sea Level Scenarios for Coastal Risk Management tool into its existing processes and policies for managing the shore.
   - For current and future projects located in 100-year floodplains, the Navy is requiring assessment of flood hazards and vulnerabilities during design, and the implementation of necessary mitigation efforts to address these vulnerabilities.
   - The Navy's Climate Change Adaptation and Resilience Handbook dated January 2017 provides an analytical framework and methodology for considering SLR mitigation.
   - Challenge – SLR is not limited to one technical discipline, installation, or facility.
     - Hampton Roads has seen an 18" rise in sea level since 1927. Measurements taken from NOAA's Sewells Point Tide Gauge at Naval Station Norfolk.
     - National Climate Assessment (NCA) projects SLR in Hampton Roads to be 0.2"/yr.
     - Norfolk Naval Shipyard dry-docks 2, 3, & 4 require flood protection since extreme high tides occur 3-5 times/ year placing vessels in dry-dock at risk of damage.
     - NS Norfolk experiences major storm related impacts to steam delivery for its central 13 piers. Each event requires shutdown/ restart of steam delivery with an associated cost. Downtime to repair infrastructure is a significant risk to readiness.

4. **Recommendation:**
   - Advocate for continuous assessment and management of Sea Level Rise risks to the Navy's shore domain to ensure mission continuity.
   - Encourage DoD cross-functional and interagency collaboration to monitor, assess and mitigate SLR risks. There are two ongoing Hampton Roads Joint Land Use Studies.